this opinion is that which is held by almost every syphilographer of eminence in the world.

Starting with this declaration of belief, the author does not dwell at any considerable length upon theoretical questions, but takes up at once the practical points of the diagnosis and treatment of the simple venereal ulcer (chancroid). Next he discusses syphilis, and finally gonorrhœa.

It is not necessary for us to review the book before us in detail. There are in it some few statements with which we do not entirely agree, but to dissent much would be to place ourselves in opposition not only to the author, but also to the best syphilographers of the present day.

The book is put forth as a manual, not as a treatise, and it is all that it was meant to be. Its brevity and its cheapness are no trifling recommendations, and it would be well if these should cause it to get into many libraries, the owners of which are at present utterly without well-defined and accurate views in regard to a subject of the utmost importance to themselves and their patients. It is altogether too common nowadays for men, otherwise competent, to know almost nothing about the real nature of syphilis. To justify one in speaking with great positiveness about it requires special and extended study; but, while such manuals exist as the one before us, there is no excuse for mistakes such as are still often made.

C. W. D.

ART. XXXVI.—*Experimental Researches on the Temperature of the Head.* By J. S. LOMBARD, M.D., formerly Assistant Professor of Physiology in Harvard University. 8 vo. pp. 100. London: H. K. Lewis, 1881.

IN 1879 Dr. Lombard published a work on the "Regional Temperature of the Head," in which the results of sixty thousand observations were recorded. Three distinct essays are bound together in the present volume. The first is on some points relating to the normal temperature of the head; the second is on the effect of voluntary muscular contractions on the temperature of the head; and the third is on the influence of the temperature of the air on the temperature of the head.

Broca, Gray, Maragliana, and Seppilli, and a few others, came to the conclusion, from their observations, that the left side of the head has uniformly a higher temperature than the right. Lombard, however, found in the experiments published in 1879, that every one of the small spaces into which he divided the surface of the head might be hotter on the right side or on the left in turn. The idea suggested itself to him that *the degree of absolute temperature* of the parts examined might have something to do with the presence on the right side at one time, and on the left at another, of superiority of temperature, or again, with the presence at certain times of equality of temperature. The experiments recorded in the first of the three essays were made to test this idea. A part of the head covering the "frontal station" of Broca was selected for examination. This station is somewhat back and above the external angular process of the frontal bone. The absolute temperature of one side was first obtained. The difference of temperature between the two sides was then taken, and this difference, added to or deducted from the absolute temperature first obtained, gave the absolute temperature of the second side. Both the thermometer and thermo-electric apparatus were used. At least fifteen careful comparisons of the two sides were made at each step of the investigation. Four elaborate tables of results are given, and these are carefully analyzed. The conclusions reached are somewhat contradictory.

> "Summing up the results of all our analyses, it would seem that the degree of absolute temperature has no definite influence on the frequency of occurrence of superiority of temperature on either side of the head, but a limited influence, at best, on equality of temperature of the two sides; at every absolute level each of the three conditions may be found with varying frequency at different times."

Lombard compares the two sides of the head to two furnaces of equal range, but the fires of which are, to a certain extent, managed independently of each other, and with a variable degree of regularity, the relative powers of the two being thus uncertain, and either one likely at any moment to surpass the other.

He doubts the reliability of conclusions drawn from examination of the temperature of the head in disease, unless much greater latitude be given to normal variations of temperature, both absolute and relative, than has generally been accorded by those who have given special attention to this subject.

The experiments on the effects of voluntary muscular contraction on the temperature of the head, were the joint work of Dr. Lombard and Frederic H. Haynes, M.D., physician to the Warneford Hospital, Leamington. In April, 1880, Dr. R. W. Amidon, of New York, published in the *Archives of Medicine* a series of experiments entitled, "The effect of Willed Muscular Movements on the Temperature of the Head: New Study of Cerebral Cortical Localization." This paper was the prize essay of the Alumni Association of the College of Physicians and Surgeons of New York, March 12th, 1880. Amidon sought to prove that willed muscular movements caused elevation of temperature at the surface of the head, sufficiently marked to be capable of detection with thermometers. He also took the ground that exercise of certain muscles, or groups of muscles, affected the temperature of definite and limited areas of the integument of the head. Each muscle, according to him, had a special thermal centre in the cortical substance of the brain, the temperature of which centre was increased when the muscle acted sufficiently. This increase, he held, could be detected in a circumscribed area of the overlying integument by means of instruments of no great delicacy.

> "Thus contraction of the quadriceps extensor cruris of one side caused an average rise of 0.409° C., on the opposite side of the head, in a space commencing 300 mm. behind the root of the nose, and extending backwards, on the median line, 80 mm., and laterally from the same line, 50 mm., the extremes of the rise of temperature being 1.388° C.; while contraction of the orbicularis palpebrarum of one side produced a rise averaging 0.342° C. (the extremes were 0.833° C., and 0.1388° C.) on the opposite side of the head, in a space situated about 100 mm. above, and a little to the rear of the external auditory meatus, and having a diameter of about 18 mm."

Dr. Amidon used Gray's modification of Seguin's surface thermometer. He mapped out some twenty-five districts on the surface of the head, as thermal centres or areas of a corresponding number of muscles or groups of muscles. He also drew attention to the correspondence between these external areas and Ferrier's psycho-motor centres of the cortex. We might also say, in passing, that he located psycho-motor centres in the frontal lobes, additional to those indicated by Ferrier.

As early as 1866–67, Lombard, while experimenting with thermo-electric apparatus on the influence of different mental states in the human temperature, was led to try the effect of muscular contraction in the temperature of the head. The muscular effect was made use of simply as a means of fixing the attention. In a few instances slight rises of temperature were noted.

In the investigations made by Drs. Lombard and Haynes, all the essential experimental details laid down by Dr. Amidon were carefully observed. Thermo-electric apparatus was, however, substituted for thermometers. The particulars of an elaborate series of experiments are given. These were as follows: (1) Thirty-two experiments on the contraction (simultaneously) of the extensor muscles of the leg and of the toes (quadriceps extensor cruris; and the extensors proper of the toes), and of the flexors of the tarsus upon the leg (tibialis anticus, and peroneus tertius). (2) Four experiments on the contraction of the muscles of the calf. (3) Sixteen experiments on the contraction of the biceps of the arm. (4) Ten experiments on the contraction of the trapezius and the levator anguli scapulæ. (5) Ten experiments on the contraction of the orbicularis palpebrarum. (6) Nine experiments on the contraction of the orbicularis palpebrarum, levator labii superioris proprius, zygomatici, and risorius, all acting simultaneously. In each of these series of experiments the pile was placed at selected points on the side of the head opposite to the side of the body on which the muscles were made to contract. The points selected were those used by Dr. Amidon also, and supposed by him to correspond to psycho-motor cortical areas.

The results of the experiments of Drs. Lombard and Haynes were most decidedly contradictory of the views held by Dr. Amidon. According to the latter, rise of temperature was as a rule the result of the willed muscular movements. Of the eighty-one results arrived at by Drs. Lombard and Haynes, only three, or less than four per cent., could be construed as affording evidence of a rise of temperature due to muscular contraction *per se*. The evidence seemed to be greatly in favour of the view that the muscular movements brought about a *fall* of temperature. The cases in which a fall of temperature was the ruling condition were more than five times as numerous as those in which a rise of temperature prevailed. MM. Bert and Franck have also repeated Dr. Amidon's experiments and have failed to confirm his results.

Drs. Lombard and Haynes conclude as follows:—

> "But although there is not sufficient proof of a rise of temperature in the head specially due to muscular contraction (leaving out the question of exact localization of such a rise), yet it would seem, that, in a certain number of cases, the muscular movements, *in some way, cause a disturbance of the temperature of the head*, this disturbance showing itself in elevations or depressions, or again, in irregular fluctuations of temperature. In fact, the variations of temperature noted in a number of the experiments were greater than those ordinarily met with in the quiescent natural state; but in exactly what way these variations are connected with the muscular movements is not yet clear."

The experiments which form the basis of the third essay before us were made with a view of obtaining a general idea of the extent to which the temperature of the surface of the head is affected by the temperature of the surrounding air. This question has, of course, an important bearing upon practical cerebral thermometry. The results of the experiments are presented in a series of elaborate tables. The following are the averages of four of these tables:—

	Average temp. of air.	Average temp. of head.
Table 1	18.9420° C.	35.7945° C.
" 2	13.6708° C.	35.0776° C.
" 3	9.6938° C.	34.8098° C.
" 4	7.0147° C.	34.1939° C.

> "From the above values there appears to be a general relation between the average temperature of the air and of the head in the several tables compared with each other. Thus as the average temperature of the air falls, in the list, the average temperature of the head likewise declines; but the fall in the head is but slight compared with that occurring in the air, the maximum of the former being only 1.6° C., while the latter at its greatest, is 11.9° C."

Dr. Lombard believes that the *seasons* undoubtedly have an effect on the results of experiments such as he performed, apart from the simple absolute temperatures concerned.

Whatever may be the fate of cerebral thermometry as a means of diagnosis, such praiseworthy labours as those of Dr. Lombard must be most relied upon in determining its scientific position. C. K. M.

ART. XXXVII.—*The Relations of the Abdominal and Pelvic Organs in the Female, illustrated by a full-sized chromolithograph of the Section of a Cadaver frozen in the Genu-pectoral position, and by a series of wood-cuts.* By Professor ALEXANDER RUSSELL SIMPSON and Dr. DAVID BERRY HART. Folio, pp. 11. Edinburgh: W. and A. K. Johnston, 1881.

THE process of making "frozen sections" is well described here, and as it has but rarely been practised in this country it may be well to allude to it. In this special case in order to prevent the displacement of the viscera by the pressure of the freezing mixture the cadaver was inclosed in a galvanized zinc case, surrounded by a large wooden box. The box had holes in it for the escape of the water, and the ice and salt were frequently stirred up. The body was kept in this for a week—a longer time than usual—but necessary on account of the unusual posture. The zinc case being then removed, a broad, salmon-bellied, two-handled saw, with moderately sized teeth, was used to saw it in the median line, water from the melting mixture being occasionally thrown over it. Each half was then replaced in its half of the zinc case and the freezing mixture in order to make accurate, full-sized tracings. This was done by thin, transparent plates of gelatine. The drawing was then transferred to paper, coloured, and lithographed. For permanent preservation the sections are to be sawn in slabs two to four inches in thickness; placed, while still frozen, in suitable block-tin or glass trays, surrounded by plaster of Paris to prevent displacement on freezing, and preserved by weak spirit.

The author does not believe that the distension of the vagina by air in the genu-pectoral posture alone will replace the retroverted uterus, but advises that the volsella be used to draw the uterus down towards the perineum, and that the cervix be then carried towards the sacrum, when the fundus by its weight will swing forwards; or, that rectal distension be used; or, that direct pressure on the fundus be employed. It can scarcely, however, be denied that the postural treatment not only aids greatly in the reposition, but that clinically it is an efficient and practical